

## REMARKS

The Examiner is thanked for the careful examination of the application. However, in view of the foregoing amendments, and the remarks that follow, the Examiner is respectfully urged to reconsider and withdraw the outstanding rejections.

### Specification:

In response to the request from the Examiner, the Abstract has been rewritten as a single paragraph.

### Art Rejections:

Claims 1, 2, 5, 6, and 8 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,905,579, hereinafter *Katayama et al.*

Claim 1 defines a determining method that includes the steps of receiving image data which is obtained by means of reading an original document by an image sensor, extracting an edge portion using the received image data, obtaining brightness information, saturation information and hue information with respect to the edge portion, and determining whether or not the edge portion is a black edge based on the brightness information, saturation information, and hue information.

According to one aspect of claim 1, the determining step requires that the determination of whether or not the edge portion is black edge is based on the brightness information, the saturation information, and the hue information.

Applicants submit that, contrary to the assertions of the Examiner, *Katayama* does not teach or suggest the obtaining step and the determining step of the present invention. The Examiner alleges that equation 2 at column 10, lines 31-34 reads on saturation and hue information with respect to the edge portion. However, equation 2 only shows the three dimensional spatial distance between the pixel of interest X

and the peripheral pixels A-D for obtaining the edge portion. Equation 2 does not relate to saturation information and hue information with respect to the pixel of interest X. Accordingly, *Katayama* does not teach or suggest obtaining brightness information, saturation information, and hue information with respect to the edge portion. In addition, *Katayama* also does not teach or suggest determining whether or not the edge portion is black edge, based on the brightness information, saturation information, and hue information.

Accordingly, *Katayama* does not teach or suggest the present invention.

Claim 2 depends from claim 1, and is thus also patentable over *Katayama*.

Claims 5, 6, and 8 each depend from claim 3, and claim 3 defines an image processing apparatus that includes, among other elements, an obtaining portion which obtains brightness information, saturation information and hue information with respect to the edge portion, and a first determining portion which determines whether or not the edge portion is black edge based on the brightness information and saturation information. As set forth above with respect to claim 1, *Katayama* does not teach or suggest the obtaining portion or the first determining portion. Since *Katayama* does not teach or suggest claim 3, *Katayama* also cannot teach or suggest dependent claims 5 and 6 which depend from claim 3. Accordingly, claims 5 and 6 are also patentable over *Katayama*.

Claim 8 depends from claim 7, and claim 7 defines an image forming apparatus which includes, among other elements, an obtaining unit which obtains brightness information, saturation information, and hue information with respect to the edge portion, and a first determining unit which determines whether or not the

edge portion is black edge based on the brightness information and the saturation information.

As set forth above with respect to claims 1 and 3, *Katayama* does not teach or suggest the obtaining unit and the first determining unit of claim 7. Accordingly, *Katayama* also does not teach or suggest the subject matter of claim 8.

Accordingly, the Examiner is respectfully urged to reconsider and withdraw the rejection of claims 1, 2, 5, 6, and 8 based on *Katayama*.

Claims 3 and 7 have been rejected under 35 U.S.C. §103(a) as being unpatentable over *Katayama* in view of U.S. Patent No. 5,296,939 hereinafter *Suzuki*. Claim 3 defines an image processing apparatus, as discussed above, and which further includes a third determining portion which determines that the edge portion is a black edge when the edge is determined as a black edge by the first determining portion and not as a pseudo-black edge by the second determining portion. Claim 7 defines an image forming apparatus, as described above, and which further includes a third determining unit which determines that the edge portion is a black edge when the edge is determined as a black edge by the first determining unit and not as a pseudo-black edge by the second determining unit.

As set forth above, *Katayama* does not teach or suggest the first determining portion of claims 3 and 7. The Examiner appears to be relying on *Suzuki* for its alleged teaching of a determining means which detects the hue and determines whether a maximum density signal of the input image data exceeds a preset threshold value to discriminate between the color character and the black character. However, this feature of *Suzuki* does not overcome the deficiency of *Katayama*. *Suzuki* discloses a determining means for discriminating between the color character

and the black character in column 11, lines 54-62. As to the determining means, *Suzuki* explains in column 5, lines 48-49, that a hue detector 1 detects any of eight hues (Y, M, C, K, W, B, G, AND R) for each pixel. However, *Suzuki* does not teach or suggest the third determining portion of the present invention.

Accordingly, claims 3 and 7 are also patentable over *Katayama* and *Suzuki*.

Claim 4 has been rejected under 35 U.S.C. §103(a) as being unpatentable over *Katayama* and *Suzuki*, and further in view of U.S. Patent No. 5,588,069, hereinafter *Katayama* '069. Claim 4 depends from claim 3 and recites that the second determining portion compares a threshold value obtained based on the brightness information with the hue information, and determines whether or not the edge portion is a pseudo-black edge based on the result of the comparison.

The Examiner relies upon *Katayama* '069 for its alleged teaching of disclosing a color character judgment unit combined with an edge detection unit that compares thresholds of luminance values. However, this portion of *Katayama* '069 does not otherwise overcome the deficiency of the rejection of claim 3, which has been discussed above. Accordingly, since claim 4 depends from claim 3, claim 4 is also patentable over the applied prior art.

In the event that there are any questions concerning this response, or the application in general, the Examiner is respectfully urged to telephone the undersigned attorney so that prosecution of the application may be expedited.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

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By:



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William C. Rowland  
Registration No. 30,888

P.O. Box 1404  
Alexandria, Virginia 22313-1404  
(703) 836-6620